

REMARKS

In the Official Action mailed on **10 June 2005** the Examiner reviewed claims 1-21. Claims 1-3, 8-10, and 15-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haggar et al (USPub 2002/0091904, hereinafter “Haggar”) in view of Shaylor (USPub 2002/0108025, hereinafter “Shaylor”). Claims 4-7, 11-14, and 18-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haggar in view of Shaylor in view of Otis (USPub 2002/0099765, hereinafter “Otis”).

Rejections under 35 U.S.C. §103(a)

Independent claims 1, 8, and 15 were rejected as being anticipated by Haggar in view of Shaylor. Applicant respectfully points out that Haggar teaches **compacting the memory** when memory is allocated and deallocated, especially from garbage collection (see paragraph [0041]). Furthermore, the **heap needs to be defragmented** on a regular basis due to deallocations that occur in the normal execution of a task (see paragraph [0042]). When compaction or defragmentation occurs, all tasks must be paused as any and all tasks may have pointers to memory altered during the process of compacting memory or defragmenting memory.

Applicant respectfully points out that Shaylor, much like Haggar, teaches that memory may **require compacting** for new memory allocation to occur (see paragraph [0040]). Although Shaylor states that this would not happen often, Applicant respectfully points out that in a multi-tasking system memory compaction may happen quite often. Again, much like Haggar, each task must be paused to allow for the possibility that a task’s pointers to blocks in memory may change during memory compaction. Therefore, both Haggar’s and Shaylor’s teachings have the affect of slowing down all tasks running on a computer system.

In contrast, the present invention **does not require that all tasks be paused** because memory is divided into independent sections; one section per task (see FIG

3, and paragraph [0035]). These independent task spaces in the new generation space can **be individually garbage collected** giving the present invention a unique advantage over Haggar and Shaylor; when a task is being garbage collected, no other task is affected (see paragraph [0036]). Furthermore, because tasks have independent memory spaces, compaction does not need to occur globally. This eliminates the drawback of pausing all tasks during memory compaction, which Haggar and Shaylor share.

There is nothing in Haggar or Shaylor that suggests that a task's **memory allocation can be garbage collected and maintained independently** of memory allocated to all other tasks, thereby allowing all other tasks to continue operation while an individual task is performing garbage collection or obtaining more memory from the surplus heap memory.


Accordingly, Applicant has amended independent claims 1, 8, and 15 to clarify that the present invention can perform garbage collection on an individual task's memory space without interfering with any other tasks. These amendments find support in FIGs. 2, and 3, and in paragraphs [0036], and [0041] of the instant application.

Hence, Applicant respectfully submits that independent claims 1, 8, and 15 as presently amended are in condition for allowance. Applicant also submits that claims 2-7, which depend upon claim 1, claims 9-14, which depend upon claim 8, and claims 16-21, which depend upon claim 15, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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